



INTISARI

Bendungan Tamblang dibangun untuk memanfaatkan debit Tukad Daya sehingga dapat meningkatkan status sosial ekonomi masyarakat Kabupaten Buleleng meliputi peningkatan penyediaan air baku, irigasi, dan pasokan listrik. Pada tahun 2018 telah dilakukan penyelidikan lapangan, akan tetapi penyelidikan yang dilakukan hanya terbatas pada jalur terowongan pengelak. Oleh karena itu, perlu dilakukan penyelidikan kondisi geologi teknik yang lebih detail pada lokasi penelitian meliputi kondisi geomorfologi, persebaran litologi, struktur geologi, kedalaman muka air tanah, penentuan daya dukung batuan pondasi, dan sudut pemotongan lereng yang aman pada area reservoir. Metode penelitian yang digunakan yaitu pemetaan geologi teknik skala 1:12.500, pengklasifikasian massa batuan menggunakan *Geological Strength Index* (GSI), pengamatan tingkat pelapukan batuan, serta pengujian sifat keteknikan batuan dan tanah sehingga dapat mengetahui karakteristik geologi teknik lokasi penelitian.

Karakteristik geologi teknik daerah penelitian terdiri atas 5 satuan geologi teknik yaitu satuan lava andesit lapuk rendah, *ignimbrite* lapuk sedang, *ignimbrite* lapuk tinggi, *ignimbrite* lapuk sangat tinggi, dan tuf lapili lapuk sangat tinggi. Karakteristik geologi teknik berdasarkan kualitas massa batuan GSI (*Geological Strength Index*) menunjukkan kualitas massa batuan di daerah penelitian terdiri dari batuan kualitas baik, sedang, buruk dan sangat buruk. Kualitas massa batuan di pondasi bendungan dan area reservoir adalah baik sehingga daya dukung batuan pondasi bendungan berkisar antara hingga 280 T/m² hingga 440 T/m² dan sudut pemotongan lereng yang aman di area reservoir berkisar 65°.

Kata kunci: Bendungan Tamblang, karakteristik geologi teknik, *Geological Strength Index*, tingkat pelapukan batuan, daya dukung batuan pondasi, sudut pemotongan lereng yang aman



ABSTRACT

Tamblang dam was built to utilize the Tukad Daya flow, so it can improve the socio-economic status of the Buleleng Regency people such as increasing the supply of raw water, irrigation, and supply of electricity. In 2018, a field investigation was carried out, but the investigation only limited to the tunnel area. Therefore, it is necessary to investigate a detail engineering geology condition in research area includes geomorphological condition, lithological distribution, structure of geology, depth of ground water level, determination of bearing capacity of rock foundation and safe cut of slope in reservoir area. The research method is used engineering geological mapping with a scale of 1:12.500, Geological Strength Index (GSI) classification of rock mass data, observation of rocks weathering degree, testing of engineering properties of rock and soil, so that is used to determine characteristic of engineering geology in research area.

Engineering geology characteristic of research area can divided into 5 geological unit that consist slightly weathered andesitic lava, moderately weathered ignimbrite, highly weathered ignimbrite, completely weathered ignimbrite, and completely weathered lapilli tuff. Based on rock mass quality of the Geological Strength Index, research area can divide into 4 units i.e good quality rock, medium quality rock, poor quality rock, and very poor quality rock. Rock mass quality of dam foundation is good quality, that it has rock bearing capacity of dam foundation is 280-440 T/m² and safe cut of slope in reservoir area is 65°.

Keywords : *Tamblang dam, engineering geology characteristic, Geological Strength Index, rock weathering degree, bearing capacity, safe cut of slope.*